



System Design *basics*

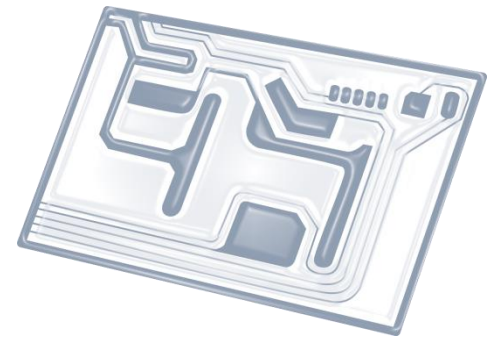
IB Computer Science



Content developed by
Dartford Grammar School
Computer Science Department



HL Topics 1-7, D1-4



1: System design



2: Computer Organisation



3: Networks



4: Computational thinking



5: Abstract data structures



6: Resource management



7: Control



D: OOP

HL & SL 1.2 Overview

Components of a computer system

- 1.2.1 Define the terms: hardware, software, peripheral, network, human resources
- 1.2.2 Describe the roles that a computer can take in a networked world
- 1.2.3 Discuss the social and ethical issues associated with a networked world

System design and analysis

- 1.2.4 Identify the relevant stakeholders when planning a new system
- 1.2.5 Describe methods of obtaining requirements from stakeholders
- 1.2.6 Describe appropriate techniques for gathering the information needed to arrive at a workable solution
- 1.2.7 Construct suitable representations to illustrate system requirements
- 1.2.8 Describe the purpose of prototypes to demonstrate the proposed system to the client
- 1.2.9 Discuss the importance of iteration during the design process
- 1.2.10 Explain the possible consequences of failing to involve the end-user in the design process
- 1.2.11 Discuss the social and ethical issues associated with the introduction of new IT systems

Human interaction with the system

- 1.2.12 Define the term usability
- 1.2.13 Identify a range of usability problems with commonly used digital devices
- 1.2.14 Identify methods that can be used to improve the accessibility of systems
- 1.2.15 Identify a range of usability problems that can occur in a system
- 1.2.16 Discuss the moral, ethical, social, economic and environmental implications of the interaction between humans and machines



1: System design

2: Computer Organisation



3: Networks

4: Computational thinking



5: Abstract data structures

6: Resource management

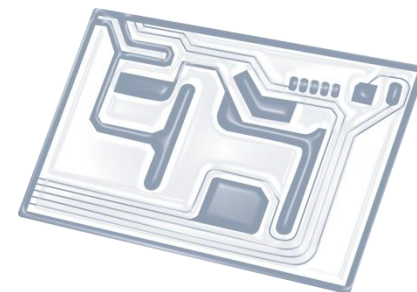


7: Control

D: OOP



Topic 1.2.3

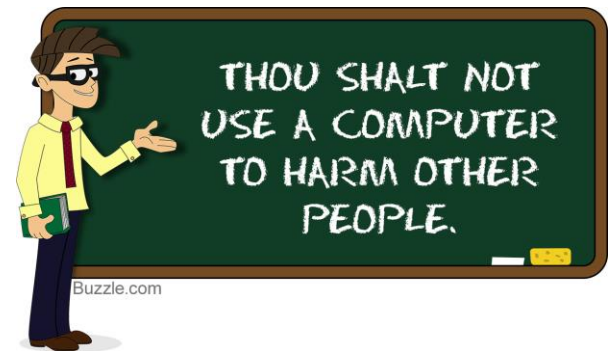


Discuss the **social** and **ethical issues** associated with a **networked world**



What is an **ethical** issue?

- A problem or situation that requires a person or organization to choose between alternatives that must be evaluated as **right** (ethical) or **wrong** (unethical).
- Examples of ethical issues are:
 - Computer crime
 - Responsibility for computer failure
 - Protection of computer property, records and software
 - Privacy



Exam note!

This curriculum point requires you to **discuss** a social or ethical issue.

That is exam speak for being able to discuss a given example by describing how networked computers are **helping/hindering** the issue.

